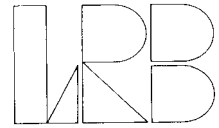


Ken H. Takayama  
Acting Director

Research (808) 587-0666  
Revisor (808) 587-0670  
Fax (808) 587-0681



LEGISLATIVE REFERENCE BUREAU  
State of Hawaii  
State Capitol  
Honolulu, Hawaii 96813

December 20, 2004

## MEMORANDUM

**TO:** All Legislators

**FROM:** Dawn Takeuchi  
Research Attorney

**SUBJECT:** Precautionary Principle

### I. Introduction

This memorandum responds to House Concurrent Resolution 49, H.D. 1, S.D. 1, adopted by the Twenty-second Legislature, Regular Session 2004, requesting the Bureau to conduct a review of the San Francisco precautionary principle ordinance.

House Concurrent Resolution 49, H.D. 1, S.D. 1 recognizes that, last year, San Francisco was the first city in the nation to adopt the precautionary principle--a new policy framework widely used in western and northern European countries for developing laws that protect the health and environment of its citizens.

Specifically, this memorandum explores the meaning and historic origins of the precautionary principle prior to the San Francisco ordinance; the history and components of the San Francisco ordinance; and the progress of the San Francisco ordinance a year after its enactment. The Bureau extends its appreciation to Debbie Raphael, Toxics Reduction Program Manager, City and County of San Francisco, for generously sharing her time and knowledge in several phone conferences and emails. We are grateful for her assistance.<sup>1</sup>

## **II. The Meaning and Historical Origins of the Precautionary Principle**

### **A. The Meaning**

The precautionary principle is an approach to decision making aimed at reducing potential harm by triggering a process to consider a wide range of alternatives to harmful action. The precautionary principle provides for anticipatory action to be taken when threats of serious or irreversible harm to people or nature exist, to prevent damages to human and environmental health, with the intent of safeguarding the quality of life for current and future generations.<sup>2</sup>

The precautionary approach utilizes an alternatives assessment over the traditionally used risk assessment in evaluating policy decisions and actions. In risk assessment, limits are determined based on acceptable levels of harm and whether the activity or product falls within that acceptable level.<sup>3</sup> The risk assessment approach of an environmental impact statement invites the parties to ask questions, but does not mandate taking the most protective action. According to a San Francisco city official, risk assessment involves good information and a "lot of non-information."<sup>4</sup> In contrast, precautionary principle decision making is based upon the best available science and other relevant information.

The precautionary principle provides a framework for governments to make protective decisions when they don't have all the answers on the table, but want to take protective action and no other decision-making framework is available.<sup>5</sup> The alternatives assessment of the precautionary principle asks whether the potentially hazardous activity or product is necessary and, further, what less hazardous options are available and how little damage is possible.<sup>6</sup> Based on the alternatives assessment, the selection of which alternative is preferable is a political or public decision.<sup>7</sup>

The precautionary principle includes the following key components:

1. Taking anticipatory action to prevent harm in the face of scientific uncertainty;
2. Exploring alternatives, including the alternative of "no action";
3. Considering the full cost of environmental and health impacts over time;
4. Increasing public participation in decision making; and
5. Shifting responsibility for providing evidence to proponents of an activity.<sup>8</sup>

Furthermore, in contrast to risk assessment, the precautionary principle requires public participation at an earlier stage. For example, under an environmental impact statement, public comment is invited only on the final document. The most significant differences in the analysis procedures appear to be the precautionary principle's earlier involvement of the public and its broader range of available information.

## **B. Historical Origins**

The precautionary principle's earliest applications to environmental policy and laws was found in Germany in the 1970s where forests were suddenly dying, yet there was no scientific proof that acid rain was the cause. The German government acted to slash power-plant emissions anyway, citing the principle of Vorsorge or "forecaring." Soon the Vorsorge prinzip--the forecaring or precautionary principle, became an axiom in domestic German environmental law.<sup>9</sup>

In 1992, the precautionary principle was made central to the "Rio Declaration," an international agreement signed by the United States at the United Nations Conference on Environment and Development Summit (UNCED) in Rio De Janeiro.<sup>10</sup> The precautionary principle has also been written into numerous international treaties and conventions, including the Bergen Declaration on Sustainable Development, the Maastricht Treaty on the European Union,<sup>11</sup> the Barcelona Convention, and the Global Climate Change Convention.

In 1998, the Wingspread Conference on the Precautionary Principle brought together activists, scholars, scientists and lawyers at the Johnson Foundation in Racine, Wisconsin to discuss methods for implementing the precautionary principle.<sup>12</sup> The goal was to determine how the precautionary principle could be used in daily environmental and public health policy decisions at the state and federal levels.<sup>13</sup> The conference produced the most well-known definition, known as the 1998 Wingspread Statement on the Precautionary Principle (Wingspread Statement):

... When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action. In this context the proponent of an activity, rather than the public, should bear the burden of proof.<sup>14</sup>

## **III. The San Francisco Precautionary Principle Ordinance**

### **A. Political History and Development**

On June 17, 2003, after eighteen months of public hearings,<sup>15</sup> the San Francisco Board of Supervisors adopted the precautionary principle ordinance by a vote of 8 to 2.<sup>16</sup> The political road to June 17 began with a two-year study by the head of the City's Department of the Environment, Jared Blumenfeld.<sup>17</sup> The study involved determining how to integrate the precautionary principle into city and countywide policy.<sup>18</sup> In 2001, the Bay Area Precautionary Principle Working Group was formed by breast cancer activist Joan Reinhardt Reiss of the Breast Cancer Fund (San Francisco), Katie Silberman of the Center for Environmental Health (Oakland), Carolyn Raffensperger of the Science and Environmental Health Network (Ames,

Iowa) and the leading proponent of precautionary thinking in the United States, Blumenfeld, and Davis Baltz of Commonweal, a nonprofit health and environmental research institute (Bollinas, California).<sup>19</sup>

While Blumenfeld was working within San Francisco government to develop precautionary policies, the Bay Area Working Group concentrated on building a coalition of non-governmental organizations to support and critique the language for the ordinance developed by Blumenfeld and his colleagues.<sup>20</sup>

Another major component of the campaign for the precautionary principle policy was the San Francisco White Paper on Precaution, which helped build support for instituting the precautionary principle.<sup>21</sup> The White Paper lays out the history, intent, content and implications of the precautionary principle.<sup>22</sup> Specifically, the White Paper points to elevated human exposures to environmental toxicants, changing patterns in human illnesses, scientific uncertainty and inadequate policies as reasons for the need for immediate policy change.<sup>23</sup>

The White Paper also addresses the popular concern over costs to implement the precautionary principle. The Paper presents three concepts for allocating responsibility, including negative externalities, life cycle analysis and performance bonds, as methods developed to better account for real costs and to distribute costs and benefits more fairly.<sup>24</sup> For example, the concept behind bottle deposits is simple: to encourage consumers to dispose of bottles in the most desirable way (recycling) and to help cover the cost if they do not. Performance bonds apply a similar concept in construction and mining projects. Bonds paid by strip miners of public lands, for example, are released only after the land has been restored. Environmental performance bonding could be developed more broadly and used to ensure that developers of new technologies or others seeking to use society's resources are held financially responsible for any potentially damaging activity.<sup>25</sup>

However, according to the San Francisco city government, research in general indicates that precautionary policies do not necessarily raise the costs of government.<sup>26</sup> Rather, precautionary policies result in a full array of cost options.<sup>27</sup> Should the most effective option prove more costly, then a political or public decision would be made.<sup>28</sup>

## **B. Ordinance Components**

The San Francisco precautionary principle ordinance created a new environmental code by: repealing the existing environmentally-related chapters; re-adopting the provisions with minor changes, including dissolving an inactive Clean Air Advisory Committee; and adding a precautionary principle policy statement as chapter 1 of the Environment Code.

The Precautionary Principle Policy Statement in chapter 1 of the ordinance provides the philosophical justification for implementation of the precautionary principle throughout governmental policy. The San Francisco Board of Supervisors found and declared that "Every San Franciscan has an equal right to a healthy and safe environment," and that "[t]he

duty to enhance, protect and preserve San Francisco's environment rests on the shoulders of government, residents, citizen groups and businesses alike."<sup>29</sup> Further, the Policy Statement explains that, historically, environmentally harmful activities were halted or dealt with only after major or extreme degradation or exposure was quantified.<sup>30</sup> The precautionary principle provides a more vigilant approach by providing an alternatives assessment to examine a broad range of available options to potentially environmentally-harmful governmental policies in such areas as transportation, construction, land use, planning, water, energy, health care, recreation, purchasing, and public expenditure.<sup>31</sup> The Policy Statement explains that a "central element" of applying the precautionary principle in decision making is the:

[C]areful assessment of available alternatives using the best available science. An alternatives assessment examines a broad range of options in order to present the public with different effects of different options considering short-term versus long-term effects or costs, and evaluating and comparing the adverse or potentially adverse effects of each option, noting options with fewer potential hazards. This process allows fundamental questions to be asked: "Is this potentially hazardous activity necessary?" "What less hazardous options are available?" and "How little damage is possible?"<sup>32</sup>

Public participation in the alternatives assessment process is another important component of the San Francisco precautionary principle ordinance, since the public bears the ecological and health consequences of environmental decisions.<sup>33</sup> According to a San Francisco city government official, it is public participation and public values that will determine whether a potentially hazardous activity is "necessary." She further indicated that because there is no existing definition of the term "necessary," generally, if there is no safer alternative, the activity may be deemed necessary.<sup>34</sup>

The Policy Statement maintains that adoption of the precautionary principle strengthens San Francisco's vision of a city powered by renewable sources, that recycles its wastes, employs vehicle fleets that produce only potable water as emissions, and keeps its Bay free from toxins and the ocean free from pollutants.<sup>35</sup> Additionally, the principle would help prevent environmental ills before harm manifests rather than finding after-the-fact cures.<sup>36</sup>

The San Francisco precautionary principle requires all officers, boards, commissions and departments of the City and County of San Francisco to implement the precautionary principle in conducting their affairs.<sup>37</sup> The precautionary principle requires the selection, based upon the best available science, of the alternative that "presents the least potential threat to human health and the City's natural systems."<sup>38</sup> However, under the ordinance, lack of full scientific certainty regarding cause and effect shall not be viewed as a sufficient reason for the City to postpone cost-effective measures to prevent degradation of the environment or protect the health of its citizens.<sup>39</sup>

San Francisco's precautionary principle ordinance differs from the Wingspread Statement on the controversial issue of burden of proof. The Wingspread Statement requires the proponent of the potentially environmentally harmful activity or project, rather than the

public, to carry the burden of proving that the activity is not harmful. However, San Francisco takes the view that the role of the activity's proponent to provide all relevant information on the activity so that the public and government may make a decision from a full array of alternatives.<sup>40</sup>

The listed major tenets of the San Francisco precautionary principle approach to decision making are as follows:

1. A duty to take anticipatory action to prevent harm;
2. The right of the community to complete and accurate information on potential health and environmental impacts, which shall be the burden of the proponent;
3. An obligation to examine a full range of alternatives, including the alternative to do nothing;
4. A duty to consider all reasonably foreseeable costs, including raw materials, manufacturing, transportation, use, cleanup, eventual disposal, and health costs; and
5. Transparent, participatory, and informed decision making.<sup>41</sup>

The San Francisco precautionary principle ordinance also requires a three-year review of the effectiveness of the policy from its date of enactment, as well as an updated website posting of all ordinances and resolutions that affect or relate to the environment.<sup>42</sup> Finally, the San Francisco ordinance limits exposure to liability by clarifying that it does not impose specific duties upon any City employee or official to take specific actions, but rather is simply an undertaking only to promote the general welfare.<sup>43</sup> This limitation of liability provides City departments and agencies with the leeway to examine and determine the best possible alternative for a given situation.

### **C. Progress in Implementation A Year Later**

At least a year has passed since the San Francisco precautionary principle ordinance was enacted. As adopted, San Francisco's precautionary principle ordinance is not self-implementing. However, legislation is being developed to implement the ordinance and is expected to be introduced January 2005. To execute the ordinance's intent, San Francisco has thus far focused on two major projects--developing a precautionary purchasing ordinance, and defining what is "meaningful public participation."<sup>44</sup> In conjunction with developing the key implementation legislation, the Environmentally Preferable Purchasing Program for Purchasing of Commodities, the City and County has led by example in alternatives assessments in the purchasing of city-utilized products, such as janitorial equipment, light bulbs, and pesticides.<sup>45</sup> The alternatives assessments require a review of all potential alternatives to maximize effectiveness and cost-effectiveness and to minimize harm.<sup>46</sup> The new purchasing ordinance will replace an existing, virtually identical Environmentally

Preferable Purchasing Pilot Program, which has resulted in verifiable cost savings over the last several years. The pilot program has established that applying the precautionary principle to government decisions does not result in cost increases.<sup>47</sup>

At the time of this memorandum, details of what constitutes "meaningful public participation" are being finalized.<sup>48</sup> City officials are working with local experts to create a way to publicly address designing the "public participation" element. There are existing precautionary principle models that San Francisco hopes to analyze in determining how to ensure "meaningful public participation" in decision making under San Francisco's precautionary principle ordinance.<sup>49</sup>

Despite these steps, progress in implementing the precautionary principle ordinance is slow, according to a city official, due to lack of staffing and the preoccupation of a new mayor with other issues. As a result, there is no example that may be cited to indicate that adoption of the precautionary principle has made a difference in governmental decision making regarding potentially hazardous activities. However, the official indicates that, to date, no problems with the ordinance have arisen during this first year of a three-year cycle, after which a review of the initial ordinance will be conducted.<sup>50</sup>

#### **IV. Conclusion**

The precautionary principle finds its origins outside of the United States and is essentially an environmental policy to evaluate the full range of available alternatives when pursuing an activity, new technology, or product and to ensure meaningful public participation in alternatives analysis and decision making. The City and County of San Francisco has made unprecedented strides in the advancement of the precautionary principle in the United States by adopting a precautionary principle ordinance that is a culmination of research, interest group involvement, and government support. So far, to implement the precautionary principle ordinance, the City and County of San Francisco has initiated development of a precautionary purchasing ordinance, including the use of alternatives assessments, and the defining of what is "meaningful public participation." Despite its efforts, however, little concrete achievements have occurred, due primarily to staffing constraints and the preoccupation of the city government in transitioning to a new mayoral administration. A review will be conducted on the effectiveness of the precautionary principle ordinance in 2006, at the end of the first three-year cycle. Further, the San Francisco precautionary principle ordinance is not self-implementing, and legislation to implement the ordinance will not even be introduced until early 2005. Given the far-reaching implications of the precautionary principle on state government, it would seem prudent to await the outcome of that evaluation before taking any further action to implement a precautionary principle in Hawaii.

## ENDNOTES

<sup>1</sup> In a December 15, 2004, phone interview, Ms. Raphael stated that she would be happy to provide additional information on the San Francisco precautionary principle ordinance to interested parties. She can be reached by mail at: Ms. Debbie Raphael, Toxic Reduction Program Manager, Department of the Environment, 11 Grove San Francisco, CA 94102; by telephone: (415) 355-3711; by fax (415) 554-6393; or by email [debbia.raaphael@sfgov.org](mailto:debbia.raaphael@sfgov.org).

<sup>2</sup> "A Policy Framework for Adopting the Precautionary Principle", the Seattle Precautionary Principle Working Group, January 2004.

<sup>3</sup> "Precautionary Principle – From Vision Statement to Practical Policy," Debbie Raphael, Toxics Reduction Program Manager, City and County of San Francisco.

<sup>4</sup> Phone interview with Debbie Raphael, Toxic Reduction Program Manager, Department of the Environment, City and County of San Francisco, December 15, 2004.

<sup>5</sup> Id.

<sup>6</sup> "Precautionary Principle – From Vision Statement to Practical Policy," Debbie Raphael, Toxics Reduction Program Manager, City and County of San Francisco.

<sup>7</sup> Id.

<sup>8</sup> Id.

<sup>9</sup> Michael Pollan, "Precautionary principle," The New York Times, December 9, 2001.

<sup>10</sup> <http://www.greenaction.org/cancer/precatuionaryprinciple.shtml>.

<sup>11</sup> "Review: Protecting Public Health and the Environment: Implementing the Precautionary Principle", by Carolyn Raffesberger and Joel Tickner. Electronic Green Journal, Issue 123, <http://egj.lib.uidaho.edu/egh12/maret2.html>.

<sup>12</sup> Id.

<sup>13</sup> Id.

<sup>14</sup> Id.

<sup>15</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, July 9, 2004.

<sup>16</sup> "San Francisco adopts the Precautionary Principle," Rachel's Environment & Health News #765, March 20, 2003.

<sup>17</sup> Id.

<sup>18</sup> Id.

<sup>19</sup> Id.

<sup>20</sup> Id.



<sup>21</sup> WHITE PAPER – The Precautionary Principle and the City and County of San Francisco, March 2003. The City and County of San Francisco, Department of the Environment.

<sup>22</sup> Id.

<sup>23</sup> Id.

<sup>24</sup> Id.

<sup>25</sup> Id.

<sup>26</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, July 9, 2004.

<sup>27</sup> Id.

<sup>28</sup> Id.

<sup>29</sup> San Francisco Precautionary Principle Ordinance, section 100.

<sup>30</sup> Id.

<sup>31</sup> Id.

<sup>32</sup> Id.

<sup>33</sup> Id.

<sup>34</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, December 15, 2004.

<sup>35</sup> San Francisco Precautionary Principle Ordinance, section 100.

<sup>36</sup> Id.

<sup>37</sup> San Francisco Precautionary Principle Ordinance, section 101.

<sup>38</sup> Id.

<sup>39</sup> Id.

<sup>40</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, July 9, 2004.

<sup>41</sup> San Francisco Precautionary Principle Ordinance, section 101.

<sup>42</sup> San Francisco Precautionary Principle Ordinance, section 102.

<sup>43</sup> Id.

<sup>44</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, July 9, 2004.

<sup>45</sup> Id.

<sup>46</sup> Id.

<sup>47</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, December 15, 2004.

<sup>48</sup> Id.

<sup>49</sup> Id.

<sup>50</sup> Phone interview with Debbie Raphael, Toxics Reduction Program Manager, Department of the Environment, City and County of San Francisco, July 9, 2004.